

I claim:

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1. A electronic price label, comprising;
memory for storing price information;
an interface for receiving the price information for storage;
a display for displaying the price information;
a processor adapted to control operation of the memory, the interface and the display, the processor being operative to perform diagnostic tests on one or more of the memory, the interface and the display and direct the issuance of an alert reporting a failure of one or more of the diagnostic tests.
 2. The label of claim 1 and also including an audible and visual alert signal for providing an audible and visual alert upon direction from the processor upon failure of one or more of the diagnostic tests.
 3. The label of claim 2 and also including a battery and wherein the diagnostic tests include a test on the battery, the diagnostic tests being operative to isolate a fault occurring in the battery.
 4. The label of claim 3 wherein the interface includes a radio transmitter and receiver and is operative to transmit information describing the status of the label.
 5. The label of claim 4 wherein the label is operative to periodically transmit a signal indicating that the label is operating normally.
 6. An electronic price label system for use in a retail establishment comprising:
a central processor for maintaining price and other information relating to a plurality of retail items; and
a plurality of labels operative to communicate with the central processor, the labels being
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- Sub C2*

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operative to display information based on information received from the central processor, each of the labels being operative to perform an internal self-diagnostic and provide an alert reporting failure of the self-diagnostic test.

7. The system of claim 6 wherein the alert includes an audible and visual alert.

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8. The system of claim 7 wherein each of the labels is operative to transmit status information to the central processor.

9. The system of claim 8 wherein each of the labels includes a transmitter and wherein the alert includes a signal transmitted to the central processor reporting failure of the self-diagnostic test.

10. The system of claim 9 wherein the status information includes a normal operation signal periodically transmitted by each label to the central processor during normal operation of the label and wherein the central processor notes failure of a label if the normal operation signal is not received as expected.

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11. A method of self-diagnosing price display, comprising the steps of:
establishing communication between a central processor and a plurality of electronic price labels;

periodically performing a self-diagnostic on each of the electronic price labels; and
reporting each failure status of a self-diagnostic program to the central processor.

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12. The method of claim 11 and also including the step of periodically transmitting a status request from the central processor to each of the plurality of electronic labels and returning responses from each of the electronic labels to the central processor.

13. The method of claim 12 and also including the step of interpreting the responses received from each of the labels to determine whether a fault exists in the label and to determine

the identity of the fault.

14. The method of claim 13 wherein the self-diagnostic label determines whether a failure disables the electronic price label from accurately reporting the failure and wherein the label ceases transmitting signals to the central processor in the event that a failure occurs which disables the electronic price label from reporting the failure.